=> set pag scr;act t1/a;d 4 .finalreport;d 4 .view2
SET COMMAND COMPLETED

L1 QUE PLU=ON DELIVER##### OR SUPPL#####
L2 QUE PLU=ON VEND#### OR DISPENS#####
L3 QUE PLU=ON SELL####
L4 QUE PLU=ON L1 OR L2 OR L3
L5 QUE PLU=ON FLUID OR LIQUID OR FUEL
L6 QUE PLU=ON GAS####### OR VAPOR OR AIR
L7 QUE PLU=ON L5 OR L6
L8 (267182)SEA FILE=USPAT PLU=ON L4 (5A) L7
L9 QUE PLU=ON MONITOR##### OR DETECT#####
L10 QUE PLU=ON DETERMIN##### OR SENS#####
L11 QUE PLU=ON L9 OR L10
L12 (13747)SEA FILE=USPAT PLU=ON L8 (5A) L11
L13 QUE PLU=ON DISPLAY### OR INDICAT#####
L14 (6873)SEA FILE=USPAT PLU=ON L13 (5A) L8
L15 (533)SEA FILE=USPAT PLU=ON L12 (P) L14
L16 QUE PLU=ON COMMUNICAT#### OR LINE OR LINK####
L17 QUE PLU=ON SEND#### OR RECEIV#### OR TRANSCEIV####
L18 QUE PLU=ON L16 OR L17
L19 (1866)SEA FILE=USPAT PLU=ON L12 (10A) L18
L20 (87)SEA FILE=USPAT PLU=ON L15 (L) L19
L21 QUE PLU=ON HOSE OR NOZZEL OR VALVE
L22 (3290)SEA FILE=USPAT PLU=ON (L12 OR L14 OR L19) (10A) L21
L23 QUE PLU=ON LOG#### OR RECORD#####
L24 QUE PLU=ON HISTOR#### OR STOR#####
L25 QUE PLU=ON L23 OR L24
L26 (9111)SEA FILE=USPAT PLU=ON L8 (5A) L25
L27 (1292)SEA FILE=USPAT PLU=ON L26 (10A) L21
L28 (4498)SEA FILE=USPAT PLU=ON L22 OR L27
L29 (6)SEA FILE=USPAT PLU=ON L26 (L) L20
L30 (1)SEA FILE=USPAT PLU=ON L28 (L) L29
L31 6 SEA FILE=USPAT PLU=ON L29 OR L30

US PAT NO: 5,088,621 :IMAGE AVAILABLE: L31: 4 of 6
DATE ISSUED: Feb. 18, 1992
TITLE: Bulk dispensing apparatus system
INVENTOR: Bruce Thompson, Box 823, Stouffville, Ont., Canada
Randall B. Thompson, Box 823, Stouffville, Ont., Canada, L4A 7Z9
APPL-NO: 07/520,895
DATE FILED: May 8, 1990
REL-US-DATA: Continuation-in-part of Ser. No. 216,105, Jul. 7, 1988, abandoned.
US-CL-CURRENT: 222/1, 21, 23, 65, 66, 130, 255, 333, 385

US PAT NO: 5,088,621 :IMAGE AVAILABLE: L31: 4 of 6
DATE ISSUED: Feb. 18, 1992
TITLE: Bulk dispensing apparatus system
US-CL-CURRENT: 222/1, 21, 23, 65, 66, 130, 255, 333, 385

ABSTRACT:

A dispensing apparatus for bulk fluids, and a method associated therewith, is disclosed in which a bulk storage tank operates in association with a second tank of a smaller size, and which retains a fluid to be dispensed in a self-serve operation. Preferably, separate pumps are employed for feeding liquid from the bulk tank to the smaller reservoir, and from the reservoir through a nozzle to a receptacle, on demand. The apparatus of the present invention provides a system for dispensing fluids such as windshield washer at e.g., service stations, which can be used by a customer when it is desired to re-fill a vehicle windshield washer, without the problems associated with filling using larger containers.

CLMS(1)

I . . .

said bulk tank;

a second pump in said housing and means connecting said second pump to a dispensing outlet, for pumping **liquid** from said reservoir to said **dispensing** outlet;

liquid level **sensing** means associated with said reservoir and including an upper **sending** means and a lower sensing means for sensing a higher and a lower liquid level in said reservoir; and

control means. . .

CLMS(14)

14. An apparatus as defined in claim 11, including a flow sensor in said flow **line**, and a liquid quantity indicator connected to said flow **sensor** for **indicating** the quantity of **liquid** **dispensed**.

CLMS(16)

16. An apparatus as defined in claim 12, including a flow sensor in said flow **line**, and a liquid value indicator connected to said flow **sensor** for **indicating** the value of **liquid** **dispensed**.

CLMS(17)

17. An apparatus as defined in claim 16, including a flow sensor in said flow **line**, and a liquid quantity indicator connected to said flow **sensor** for **indicating** the quantity of **liquid** **dispensed**.

CLMS(22)

22. . . .

liquid from a bulk storage by a first mounted in said bulk storage to a reservoir mounted on said bulk **storage** for holding a smaller **supply** of **liquid**;

feeding said **liquid** from said reservoir by a second pump mounted in said reservoir;

initiating said pumping by said first pump by detection of. . .